R.F. POWER TETRODE

QV05-25

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

This Data Sheet should be read in conjunction with "Operating Notes, Part I—Power Valves" included in this volume of the Handbook.

HEATER

V_h	6.3	V
I_h	0.9	A
Heating Time	15	secs.

MOUNTING POSITION

Any

CAPACITANCES

c_{in}	11	μμF
*c_{out}	7.0	μμF
c_{a-g1}	<0.2	μμF

*Measured with external shield

CHARACTERISTICS

At V_a = 600 V. V_{g2} = 300 V. I_a = 72 mA.

μ_{g1-g2}	8.0	
g_m	6.0	mA/V

LIMITING VALUES

V_a max.	600	V
$v_{a(pk)}$ max.	2,000	V
V_{g2} max.	300	V
V_{g1} max.	−200	V
I_k max.	150	mA
$i_{k(pk)}$ max.	400	mA
I_{g2} max.	10	mA
I_{g1} max.	5.0	mA
$i_{g1(pk)}$ max.	25	mA
p_a max.	25	W
p_{g2} max.	3.5	W
R_{g1-k} max.	25	kΩ
V_{h-k} max.	100	V

Operating Frequency (Mc/s.)	Max. anode voltage (V)	Max. anode input power (W)
60	600	60
75	500	50

QV05-25

R.F. POWER TETRODE

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

OPERATING CONDITIONS

For Push-pull pair as Class "AB_2" A.F. power amplifier and modulator

V_a	400	500	600	V
V_{g2}	300	300	300	V
V_{g1}	–25	–25	–30	V
$I_{a(o)}$	2×50	2×50	2×30	mA
$I_{g2(o)}$	2×2.5	2×2.5	2×2.5	mA
$v_{in(pk)}$	2×39	2×39	2×39	V
I_a (max. sig.)	2×120	2×120	2×100	mA
I_{g2} (max. sig.)	2×5.0	2×5.0	2×5.0	mA
R_{a-a}	3.2	4.24	6.4	kΩ
*P_{drive} (max. sig.) approx.	0.2	0.2	0.1	W
P_{out} approx.	55	75	80	W

* The effective resistance of the grid circuit should be below 500 ohms, and the effective impedance should not exceed 700 ohms at the highest response frequency required.

OPERATING CONDITIONS

For single valve as R.F. amplifier Class B telephony

V_a	400	500	600	V
V_{g2}	250	250	250	V
V_{g1}	–25	–25	–25	V
I_a	75	75	62.5	mA
I_{g2}	4.0	4.0	3.0	mA
$v_{in(pk)}$	30	30	20	V
P_{drive} approx.	0.25	0.25	0.2	W
P_{out} approx.	9.0	12.5	12.5	W

OPERATING CONDITIONS

For single valve as R.F. amplifier Class C telephony anode modulated

V_a	325	400	475	V
*V_{g2}	225	225	225	V
R_{g2}	20	30	50	kΩ
**V_{g1}	–75	–80	–85	V
R_{g1-k}	25	22.8	21.3	kΩ
I_a	80	80	83	mA
I_{g2} approx.	5.0	5.75	5.0	mA
I_{g1}	3.0	3.5	4.0	mA
$v_{in(pk)}$	90	95	110	V
P_{drive} approx.	0.25	0.3	0.4	W
P_{out} approx.	17.5	22.5	27.5	W

* Preferably obtained from modulated anode supply through resistor (R_{g2}) of value shown.

** May be obtained either from separate supply, or by a grid resistor of value shown, or by a combination of these methods.



R.F. POWER TETRODE

QV05-25

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

OPERATING CONDITIONS

For single valve as R.F. amplifier and oscillator Class C telegraphy

V_a	400	500	600	V
* V_{g2}	250	250	250	V
R_{g2}	20	42	50	kΩ
** V_{g1}	−45	−45	−45	V
R_{g1-k}	12.8	12.8	12.8	kΩ
R_k	410	410	410	Ω
I_a	100	100	100	mA
I_{g2}	7.5	6.0	7.0	mA
I_{g1} approx.	3.5	3.5	3.5	mA
$v_{in(pk)}$	65	65	65	V
P_{drive} approx.	0.2	0.2	0.2	W
P_{out} approx.	25	30	40	W

* May be obtained from a separate supply, or from a potentiometer, or from the anode supply through resistor (R_{g2}) of value shown.

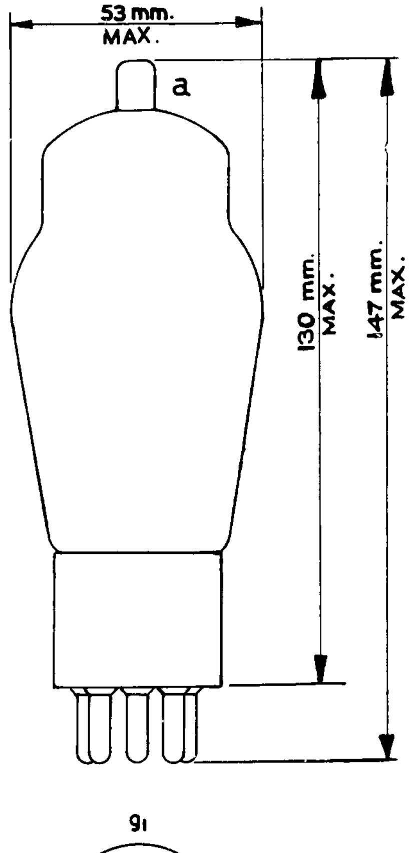
** May be obtained from a separate supply, or from a grid or cathode resistor of value shown, or by a combination of these methods.

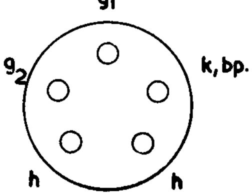
WEIGHT Valve only ; 2½ oz. (0.08 kg.)

QV05-25

R.F. POWER TETRODE

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.





AMERICAN MEDIUM 5-PIN BASE



R.F. POWER TETRODE

QV05-25

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE
FOR SCREEN VOLTAGE = 250V



QV05-25

R.F. POWER TETRODE

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

QV05-25

$V_h = 6{\cdot}3V$
$V_{g2} = 300V$

$V_{g1} = 25V$, 20V, 15V, 10V, 5V, 0V, -5V, -10V, -15V, -20V, -25V, -30V, -35V, -40V

V_a (V): 200, 400, 600, 800

I_a (mA): 600, 400, 200

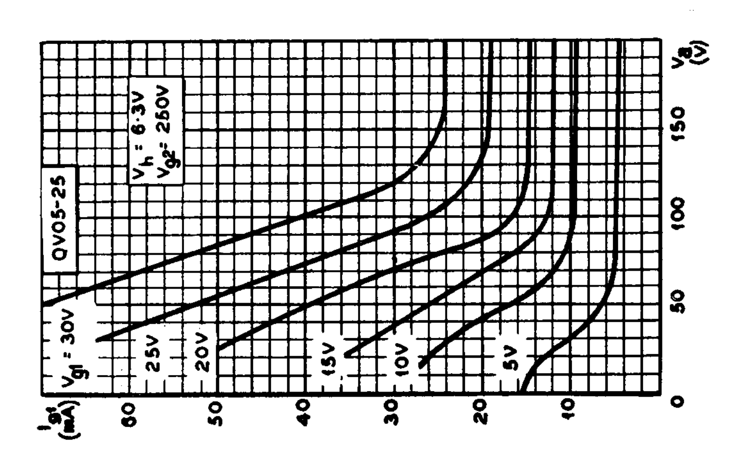
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE
FOR SCREEN VOLTAGE = 300V



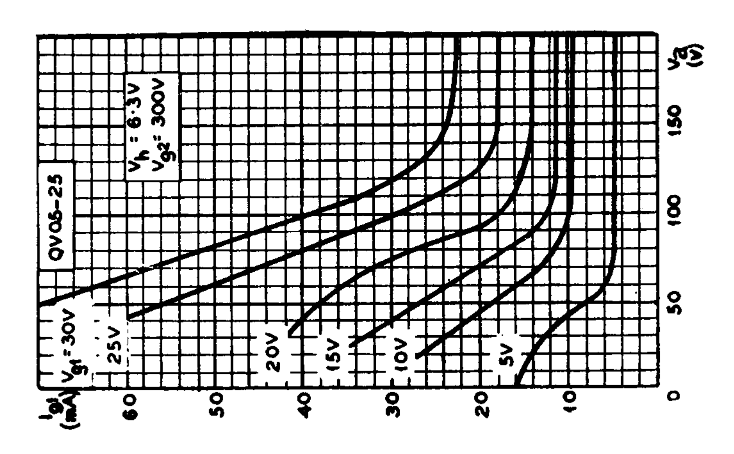
R.F. POWER TETRODE

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.

QV05-25



CONTROL GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE FOR SCREEN VOLTAGE = 250V

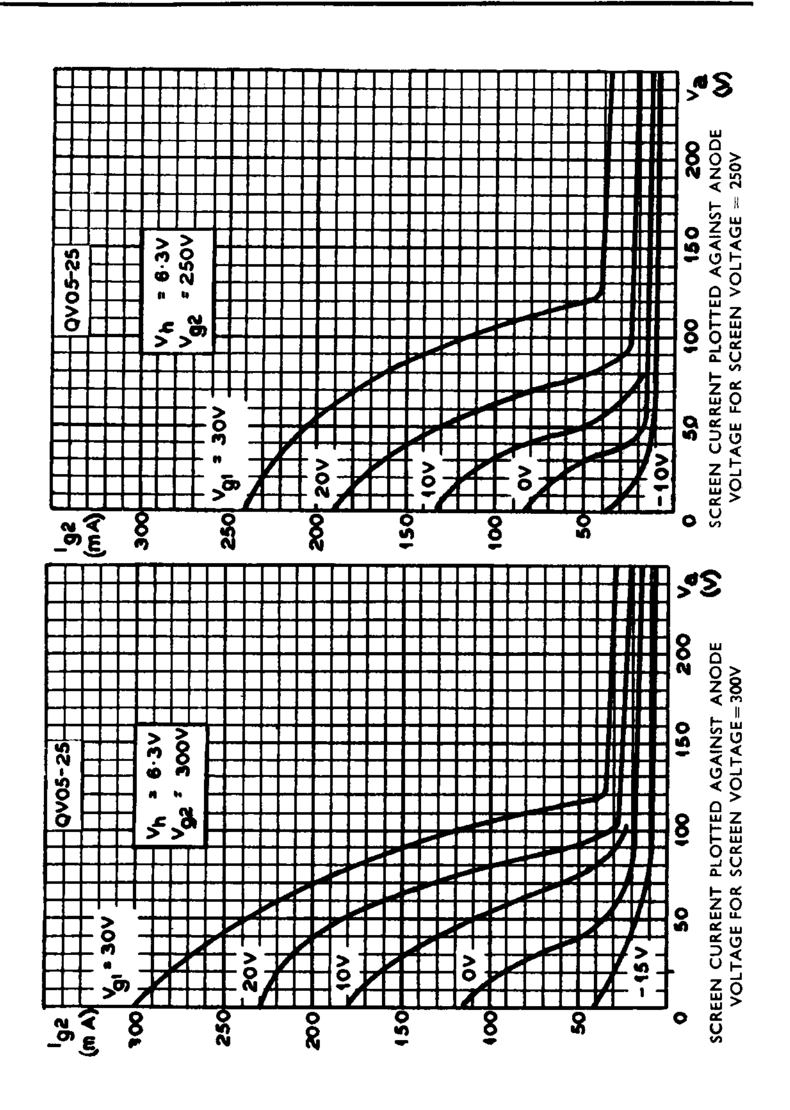


CONTROL GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE FOR SCREEN VOLTAGE = 300V

QV05-25

R.F. POWER TETRODE

Indirectly heated beam tetrode, rated for a maximum anode dissipation of 25 watts, and suitable for use as an A.F. Amplifier or modulator, or as an R.F. Power Amplifier or oscillator.



SCREEN CURRENT PLOTTED AGAINST ANODE VOLTAGE FOR SCREEN VOLTAGE = 250V

SCREEN CURRENT PLOTTED AGAINST ANODE VOLTAGE FOR SCREEN VOLTAGE = 300V